

West Virginia Department of Environmental Protection
Division of Air Quality

Joe Manchin, III
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Operate



Pursuant to
Title V
of the Clean Air Act

Issued to:
Saint-Gobain Ceramics and Plastics, Inc.
dba. Corhart Refractories
Buckhannon Plant
R30-09700001-2010

John A. Benedict
Director

Issued: 04-06-2010 • Effective: 04-20-2010
Expiration: 04-06-2015 • Renewal Application Due: 10-06-2014

Permit Number: **R30-09700001-2010**
Permittee: **Saint-Gobain Ceramics and Plastics, Inc.**
dba. Corhart Refractories
Permittee Mailing Address: Route 10, Box 82
Buckhannon, WV 26201

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Buckhannon, Upshur County, West Virginia
Facility Mailing Address:	Route 10 Box 82, Buckhannon, WV 26201
Telephone Number:	(304) 472-1214
Type of Business Entity:	Corporation
Facility Description:	Non clay refractory manufacture
SIC Codes:	3297
UTM Coordinates:	465.3km Easting • 4,316.8 km Northing • Zone 17

Permit Writer: Jesse Hanshaw, P.E.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
1S	001	Zircon Spray Dryer	1967	1.5 MBTU/hr and 400 lb/hr	Baghouse 001C
3S	003	Zircon Dryer #3	1961	0.27 mmbtu/hr	None
4S	004	Zircon Dryer #4	1961	0.27 mmbtu/hr	None
7S	007	Kiln K-4	1961	3.5 mmbtu/hr	None
8S	008	Kiln K-9	1963	3.5 mmbtu/hr	None
9S	009	Kiln K-10	1963	3.5 mmbtu/hr	None
10S	010	Kiln K-11	1967	5.0 mmbtu/hr	None
11S	011	Kiln K-15	1970	6.0 mmbtu/hr	None
13S	013	Chrome Dryer #2	1962	0.84 mmbtu/hr	None
14S	014	Chrome Dryer #3	1962	0.84 mmbtu/hr	None
15S	015	Kiln K-1	1961	10.48 mmbtu/hr	0.94 mmbtu/hr afterburner 017C
16S	016	Kiln K-2	1961	10.48 mmbtu/hr	0.94 mmbtu/hr afterburner 017C
18S	018	Kiln K-13	1971	10.48 mmbtu/hr	None
19S	019	Kiln K-14	1972	10.48 mmbtu/hr	None
20S	020	Kiln K-21	1974	10.48 mmbtu/hr	None
21S	021	Kiln K-22	1975	10.48 mmbtu/hr	None
22S	022	Kiln K-27	1989	10.48 mmbtu/hr	None
23S	023	Kiln K-30	1990	10.48 mmbtu/hr	None
29S	029	Brick Dryer #6	1961	0.27 mmbtu/hr	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
30S	030	Brick Dryer #8	1961	0.27 mmbtu/hr	None
31S	031	Bickley Bell Kiln K-23	1978	8.0 mmbtu/hr	None
32S	032	Bickley Bell Kiln K-24	1978	8.0 mmbtu/hr	None
33S	033	C.P.C. Shuttle Kiln K-26	1988	3.75 mmbtu/hr	None
34S	034	Bickley Lab Kiln K-12	1964	2.0 mmbtu/hr	None
35S	035	Bickley Lab Kiln K-28	1990	2.0 mmbtu/hr	None
45S	045	Bickley Bell Kiln K-33	1996	9.0 mmbtu/hr	None
46S	046	Bickley Bell Kiln K-34	1996	9.0 mmbtu/hr	None
48S	048	Emergency Diesel Generator	2000	896 bhp	None
49S	049	Car Bell Kiln K-35	2001	8.72 mmbtu/hr	3.1 mmbtu/hr afterburner 049C
50S	050	Car Bell Kiln K-36	2005	12.0 mmbtu/hr	<u>None</u> 12 mmbtu/hr afterburner 050C
51S	051	Kiln K-38	2009	4.0 mmbtu/hr Kiln load 5,000 lb	None

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-0412	06-28-1978
R13-0536	01-03-1980
R13-0778	02-11-1985
R13-2412	11-06-2000
R13-2433CB	<u>DRAFT</u> 12-10-2009

2.0 General Conditions

2.1. Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NO_x	Nitrogen Oxides
CBI	Confidential Business Information	NSPS	New Source Performance
CEM	Continuous Emission Monitor		Standards
CES	Certified Emission Statement	PM	Particulate Matter
C.F.R. or CFR	Code of Federal Regulations	PM₁₀	Particulate Matter less than
CO	Carbon Monoxide		10µm in diameter
C.S.R. or CSR	Codes of State Rules	pph	Pounds per Hour
DAQ	Division of Air Quality	ppm	Parts per Million
DEP	Department of Environmental Protection	PSD	Prevention of Significant Deterioration
FOIA	Freedom of Information Act	psi	Pounds per Square Inch
HAP	Hazardous Air Pollutant	SIC	Standard Industrial Classification
HON	Hazardous Organic NESHAP		
HP	Horsepower	SIP	State Implementation Plan
lbs/hr or lb/hr	Pounds per Hour	SO₂	Sulfur Dioxide
LDAR	Leak Detection and Repair	TAP	Toxic Air Pollutant
m	Thousand	TPY	Tons per Year
MACT	Maximum Achievable Control Technology	TRS	Total Reduced Sulfur
		TSP	Total Suspended Particulate
mm	Million	USEPA	United States Environmental Protection Agency
mmBtu/hr	Million British Thermal Units per Hour		
mmft³/hr or mmcf/hr	Million Cubic Feet Burned per Hour	UTM	Universal Transverse Mercator
NA or N/A	Not Applicable	VEE	Visual Emissions Evaluation
NAAQS	National Ambient Air Quality Standards	VOC	Volatile Organic Compounds
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
 - a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.
- [45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

- 2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

- 2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

- 2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

- 2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:
- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
 - b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
 - c. The change shall not qualify for the permit shield.
 - d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
 - e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.

- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
- b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
- c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

- 2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:
- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
 - b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

- 2.16.1. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

[45CSR§30-5.1.f.2.]

2.17. Emergency

- 2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

[45CSR§30-5.7.a.]

- 2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.

[45CSR§30-5.7.b.]

- 2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. The permitted facility was at the time being properly operated;
- c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

- d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

- 2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

[45CSR§30-5.7.d.]

- 2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

[45CSR§30-5.7.e.]

2.18. Federally-Enforceable Requirements

- 2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

- 2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

- 2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

- 2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

[45CSR§30-4.2.]

2.21. Permit Shield

- 2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically

identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.

[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.

[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.

[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.

[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.
- b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

- c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. [45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. [45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. [40 C.F.R. §61.145(b) and 45CSR15]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. [45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11. [45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. [W.Va. Code § 22-5-4(a)(14)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.
 - c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.
- [40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]
- 3.1.9. No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.
[45CSR§7-5.1.]
- 3.1.10. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.
[45CSR§7-5.2.]

3.2. Monitoring Requirements

- 3.2.1. The permittee shall maintain records indicating the use of any dust suppressants or any other suitable dust control measures applied at the facility. The permittee shall also inspect all fugitive dust control systems to ensure that they are operated and maintained in conformance with their designs. The permittee shall maintain records of all scheduled and non-scheduled maintenance. These records shall be maintained on site stating any maintenance or corrective actions taken as a result of the inspections, and the times the fugitive dust control system(s) are inoperable and any corrective actions taken.
[45CSR§30-5.1.c.]

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language;
 2. The result of the test for each permit or rule condition; and,
 3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(15); 45CSR13, R13-2433, 3.3.1 and 45CSR§§7-8.1 and 8.2]

3.4. Recordkeeping Requirements

- 3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and

- f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A., 45CSR13, R13-2433 condition 4.4.1.]

- 3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

[45CSR§§30-4.4. and 5.1.c.3.D.]

- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

[45CSR§30-5.1.c.3.E.]

- 3.5.3. Except for the electronic submittal of the annual certification to the USEPA as required in 3.5.5 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, mailed first class or by private carrier with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:

Associate Director
Office of Enforcement and Permits Review
(3AP12)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

- 3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.
[45CSR§30-8.]
- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification.
[45CSR§30-5.3.e.]
- 3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4.
[45CSR§30-5.1.c.3.A.]
- 3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.
- 3.5.8. **Deviations.**
- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.
 2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
 4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.

[45CSR§30-5.1.c.3.B.]

- 3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.

[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

- 3.6.1. N/A

3.7. Permit Shield

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

- 3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

- a. This facility was evaluated for 40C.F.R.64 CAM applicability and was found not to have any pollutant specific emission units, which exceed major source thresholds. Carbon monoxide is the only pollutant to exceed 100 tons per year as a result of aggregate emissions from multiple kilns and dryers.
- b. 40 C.F.R. 63, subpart SSSSS – National Emission Standards for Hazardous Air Pollutants: Refractory Products Manufacturing. This regulation does not apply to Corhart because the facility is not a major source of HAPs.
- c. Reserved

4.0 Source-Specific Requirements for Kilns K-26, K-27, K-30, K-33, and K-34 (Emission Points 033, 022, 023, 045, and 046)

4.1. Limitations and Standards

4.1.1. The following kilns shall not exceed the permitted limits in the table below:

Emission Point ID	Kiln No.	Maximum Natural Gas Usage (mmcf/yr)	Maximum # of hours the Kiln is to be operated above 1480°C (hours/year)
022	K-27	91.80	1,314
023	K-30	91.80	1,314
033	K-26	59.13	1,305
045	K-33	78.84	1,260
046	K-34	78.84	1,260

[45CSR13 - R13-2433, Condition 4.1.3.a]

4.1.2. Emissions to the atmosphere from the permitted emission points shall not exceed the following:

Emission Point	CO (lb/hr)	NO _x (lb/hr)		PM (lb/hr)	SO ₂ (lb/hr)	VOC (lb/hr)	Total Chromium (lb/hr)
022	48	1.47 ¹	5.47 ²	0.211	0.1	17	0.045
023	48	1.47 ¹	5.47 ²	0.211	0.1	17	0.045
033	11	0.95 ¹	3.52 ²	0.047	0.1	3.8	0.010
045	60	1.26 ¹	4.70 ²	0.264	0.1	21	0.056
046	60	1.26 ¹	4.70 ²	0.264	0.1	21	0.056

1- This limit is only applicable when the kiln temperature is at or below 1480° C.

2- This limit is only applicable when the kiln temperature is above 1480° C.

Emission Point	CO (tpy)	NO _x (tpy)	PM (tpy)	SO ₂ (tpy)	VOC (tpy)	Total Chromium (tpy)
022	14.7	4.23	0.61	0.44	5.10	0.08
023	14.7	4.23	0.61	0.44	5.10	0.08
033	3.37	2.72	0.14	0.44	1.15	0.018
045	18.3	3.63	0.76	0.44	6.37	0.10
046	18.3	3.63	0.76	0.44	6.37	0.10

Compliance with the hourly PM limits will assure compliance with the weight based emission limits of Rule 7 at 45CSR§7-4.1.

[45CSR13 - R13-2433, Condition 4.1.3.b and c, 45CSR§7-4.1]

4.1.3. Visible emissions from the emission points 022, 023, 033, 045, and 046 shall not be discharged to the atmosphere in amounts greater than 20% opacity except for visible particulate matter emission less than 40% opacity for a period or periods aggregating no more than 5 minutes in any 60 minute period.

[45CSR§§7-3.1., 3.2, and 45CSR13 - R13-2433, 4.1.3.d, Emission Point IDs (022, 023, 033, 045, 046)]

- 4.1.4. Due to unavoidable malfunction of equipment, emissions exceeding those provided for in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.
[45CSR§7-9.140]

4.2. Monitoring Requirements

- 4.2.1. For the purpose of determining compliance with the maximum throughput limits set forth under condition 4.1.1, the permittee shall monitor the total fuel consumed by each of the kilns, K-27, K-30, K-26, K-33, and K-34, hours each kiln operated above 1480⁰C, and the total amount of refractory produced by each kiln. Such records shall be maintained on a monthly basis and compliance with the annual limits shall be demonstrated on a 12-month rolling total. Such records shall be maintained in accordance with Condition 3.4.2 of this permit.
[45CSR13 - R13-2433, Condition 4.2.1]
- 4.2.2. For the purpose of determining compliance with the opacity limits of conditions 4.1.3., the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping of emission points: 022, 023, 033, 045, and 046.

The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40 CFR Part 60, Appendix A, Method 9 certification course.

Visible emission checks shall be conducted at least once per calendar month ~~between April 1 to October 31~~ with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed at each source (stack, transfer point, fugitive emission source, etc.) for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. A Method 9 observation at a source restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13 - R13-2433, Condition 4.2.2]

- 4.2.3. Each individual kiln shall be equipped with a temperature measuring device/system that measures the temperature in the combustion chamber of the kiln. This device shall have an accuracy of $\pm 1.5^{\circ}\text{C}$ or ± 1 percent of the temperature value expressed in degrees Celsius, whichever is larger. The location of the temperature sensor(s) must be in a location that provides a representative temperature of the combustion chamber. In addition to measuring, such device or system shall record the measured temperature in intervals of at least once every 15 minutes. Such system shall be maintained at all times while the kiln is in operation.
[45CSR13 - R13-2433, Condition 4.1.3.e]

4.3. Testing Requirements

- 4.3.1. Testing of Kilns K-26 and K-27 once per permit term or at the request of the Director shall be performed to demonstrate compliance with the CO, NO_x, SO₂, VOC, and weight-based PM emission limits.
[45CSR§30-5.1.c.]
- 4.3.2. A calculation utilizing production records and the results of emission testing shall be used for demonstrating compliance with the yearly emission limits in 4.1.2.
[45CSR§30-5.1.c.]

4.4. Recordkeeping Requirements

- 4.4.1. Compliance with the SO₂ and weight-based PM emission limitations established for Kilns K-26, K-27, K-30, K-33, and K-34 shall be demonstrated by the following:
- a. Demonstrate that natural gas was used as the only fuel in Kilns K-26, K-27, K-30, K-33, and K-34.
 - b. Maintain records of the quantity of fuel burned in such units on a monthly basis.
 - c. The owner or operator of a unit(s) which burns pipeline quality natural gas shall maintain records on the quality of fuel burned in such unit(s). Such requirement will be deemed to be satisfied by an initial characterization of the fuel quality, which shall include, but may not be limited to, the ash, sulfur, moisture, volatile matter, and BTU content. Such data may be obtained from the supplier(s), ASTM testing, or other method approved by the Director.
[45CSR§30-5.1.c.]
- 4.4.2. The permittee shall maintain records of all monitoring data required by Section 4.2.2. documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6 - 10 mph NE wind) during the visual emission check(s). An example form is supplied as Appendix A of this Title V permit. Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirement. For an emission unit out of service during the normal monthly evaluation, the record of observation may note “out of service” (O/S) or equivalent.
[45CSR13 - R13-2433, Condition 4.4.4]

4.5. Reporting Requirements

- 4.5.1. Any exceedances of the allowable visible emission requirement for any emission source discovered during observations using the method outlined in 45CSR7A must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
[45CSR13 - R13-2433, Condition 4.5.1]

5.0 Source-Specific Requirements for Emergency Generator (Emission Point 048)

5.1. Limitations and Standards

- 5.1.1. Emissions to the air from emission point 048, (Identified in R13-2412 as a diesel generator exhaust stack), shall not exceed the following:

Pollutant	lb/ hr	pounds per year
CO	0.57	57.0
NO _x	14.8	1480
PM	1.09	109
SO ₂	1.45	145
VOC	0.26	26.0

[45CSR13 - R13-2412, Condition A.1.]

- 5.1.2. The Caterpillar Model 3412 DITA Generator (ID No. 48s) shall not operate more than one hundred hours per year. Compliance with this annual limit shall be determined using a rolling yearly total. A rolling yearly total shall mean the sum of hour of operation at any given time for the previous twelve (12) consecutive calendar months.

[45CSR13 - R13-2412, Condition A.2.]

- 5.1.3. The Caterpillar Model 3412 DITA Generator (ID No. 48s) shall not consume more than 44.5 gallons of diesel fuel per hour.

[45CSR13 - R13-2412, Condition A.3.]

5.2. Monitoring Requirements

- 5.2.1. N/A

5.3. Testing Requirements

- 5.3.1. N/A

5.4. Recordkeeping Requirements

- 5.4.1. The permittee shall maintain accurate monthly records of the amount of diesel fuel consumed, hours of operation, and the 12 month rolling average hours of operation for the emergency generator. These records shall be certified by a responsible official, maintained on site for a period of five (5) years, and made available to the Director of the Division of Air Quality or his/her duly authorized representative upon request.

[45CSR13 - R13-2412, Condition B.1.]

5.5. Reporting Requirements

- 5.5.1. N/A

6.0 Source-Specific Requirements for Kilns K-35, K-36, and K-38 (Emission Points 049, 050, 051)

6.1. Limitations and Standards

6.1.1. Kiln K-35 shall not exceed the permitted operating limits as shown in Table 1.

Table 1 - Operating Limits, Kiln System K-35

Emission Point ID	Kiln Maximum Natural Gas Usage (mmcf/yr)	Afterburner Maximum Natural Gas Usage (mmcf/yr)	Maximum Annual Hours Kiln Temperature above 1480° C (hour/year)	Maximum Annual Production (lb/year)
049	76.7	27.5	1,080	1,400,000

[45CSR13 - R13-2433, Condition 4.1.1.a, Emission Point ID (049)]

6.1.2. The pollutants released through Emission Point ID - 049 shall not exceed the hourly limits as shown in Table 2 for each of the respective pollutants. Compliance with these limits shall be performed by correcting the oxygen content of the kiln exhaust to 18% O₂.

Table 2 - Hourly Emission Limits, Kiln K-35, Emission Point ID-049

Emission Point ID	CO (lb/hr)	NO _x (lb/hr)	PM (lb/hr)	SO ₂ (lb/hr)	VOC (lb/hr)	Chromium (lb/hr)
049	6.76 5.04	1.85 ¹ 6.30 4.55 ²	0.29	0.01	3.66 1.09	0.001

1- This limit is only applicable when the kiln temperature is at or below 1480° C.

2- This limit is only applicable when the kiln temperature is above 1480° C.

Compliance with these PM limits will assure compliance with the weight based emission limits of Rule 6 at 45CSR§6-4.1 and Rule 7 at 45CSR§7-4.1.

[45CSR13 - R13-2433, Condition 4.1.1.b, 45CSR§7-4.1, 45CSR§6-4.1]

6.1.3. The pollutants released through Emission Point ID - 049 shall not exceed the total annual limits as shown in Table 3 for each of the respective pollutants.

Table 3 - Annual Emission Limits, Kiln K-35, Emission Point ID-049

Emission Point ID	CO (tons/yr)	NO _x (tons/yr)	PM (tons/yr)	SO ₂ (tons/yr)	VOC (tons/yr)	Chromium (tons/yr)
049	7.06 5.28	10.5 9.56	0.86 0.82	0.02 0.03	2.75 0.58	0.0005

[45CSR13 - R13-2433, Condition 4.1.1.c]

6.1.4. Items a and b of this condition are required to be a hereto only when refractory is being fired that contains a liquid polyethylene glycol based binder or a refractory formulation that is known to exhibit visible emissions without controls.

[45CSR13 - R13-2433, Condition 4.1.1.d]

a. The permittee shall operate the afterburners, 49C and 50C, at the initial phase of the firing cycle when the temperature in the kiln reaches 150⁰C. Once the temperature reaches 500⁰C during the firing cycle, the

permittee is no longer required to operate the afterburner for the rest of the individual firing cycle even during the cooling down phase of the firing cycle.

[45CSR13 - R13-2433, Condition 4.1.1.~~c,d~~ and 4.1.2.~~d~~, Equipment ID (49C,~~50C~~)]

- ~~6.1.5.~~ b. The minimum operating temperature in the combustion chamber of the afterburners shall be no less than 750°C when the afterburner is required to be in operation according to condition 6.1.4.a. Compliance with the minimum temperature requirement of this condition shall be based on a three-hour average.

[45CSR13 - R13-2433, Condition 4.1.1.~~f~~ and 4.1.2.~~e~~, Equipment ID (49C,~~50C~~)]

- 6.1.5.6 No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is darker in shade or appearance than that designated as No. 1 Ringelmann or twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7. Compliance with this visible emission limit will assure compliance with the visible emission limit of 45CSR§6-4.3.

[45CSR§7-3.1, 45CSR§6-4.3., 45CSR13 - R13-2433, Condition 4.1.1.~~h~~ g and 4.1.2.~~e~~ g, Emission Point ID (049, 050, 051)]

- 6.1.6.7 Due to unavoidable malfunction of equipment, emissions exceeding those provided for in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.

[45CSR§7-~~9.110~~.]

- 6.1.7.8 Kiln K-36 shall not exceed the permitted operating limits as shown in Table 4.

Table 4 - Operating Limits, Kiln System - K-36

Emission Point ID	Kiln Maximum Natural Gas Usage (mmcf/yr)	Afterburner Maximum Natural Gas Usage (mmcf/yr)	Maximum No. Hours operated above 1480° C (hours/year)	Maximum Annual Production (lb/year)
050	97.8	23.8	1,080	1,400,000

[45CSR13 - R13-2433, Condition 4.1.2.a, Emission Point ID (050)]

- 6.1.8.9 The pollutants released through Emission Point ID - 050 shall not exceed the hourly limits as shown in Table 5 for each of the respective pollutants.

Table 5 - Hourly Emission Limits, Kiln K-36, Emission Point ID-050

Emission Point ID	CO (lb/hr)	NOx (lb/hr)	PM (lb/hr)	SO ₂ (lb/hr)	VOC (lb/hr)
050	5.97 4.53	2.23 ¹	8.67 6.26 ²	0.40 0.53	0.01
					6.20 0.22

1- This limit is only applicable when the kiln temperature is at or below 1480° C.

2- This limit is only applicable when the kiln temperature is above 1480° C.

Compliance with these PM limits will assure compliance with the weight based emission limits of Rule 6 at 45CSR§6-4.1 and Rule 7 at 45CSR§7-4.1.

[45CSR13 - R13-2433, Condition 4.1.2.b, 45CSR§7-4.1, ~~45CSR§6-4.1~~]

- 6.1.9.10 The pollutants released through Emission Point ID - 050 shall not exceed the total annual limits as shown in Table 6 for each of the respective pollutants.

Table 6 - Annual Emission Limits, Kiln K-36, Emission Point ID-050

Emission Point ID	CO (tons/yr)	NOx (tons/yr)	PM (tons/yr)	SO ₂ (tons/yr)	VOC (tons/yr)
050	<u>7.35</u> 1.15	<u>13.24</u> 11.94	<u>1.18</u> 0.77	<u>0.03</u> 0.04	<u>4.61</u> 0.16

[45CSR13 - R13-2433, Condition 4.1.2.c]

- 6.1.10. The permittee shall not fire a refractory that contains a liquid polyethylene glycol based binder into the kiln.
[45CSR13 - R13-2433, Condition 4.1.2.d, Emission Point ID (050)]
- 6.1.11. *Operation and Maintenance of Air Pollution Control Equipment.* The permittee shall, to the extent practicable, install, maintain, and operate pollution control equipment 049C ~~and 050C~~ listed in section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13 - R13-2433, Condition 4.1.4]
- 6.1.12. The particulate matter (PM) released through Emission Point ID - 051 shall not exceed 0.051 lbs/hr as Compliance with these PM limits will assure compliance with the weight based emission limits of Rule 7 in accordance with 45CSR§7-4.1 for manufacturing processes.
[45CSR§7-4.1 and 45CSR§30-12.7, Equipment ID (51s-Kiln 38)]

6.2. Monitoring Requirements

- 6.2.1. For the purpose of determining compliance with the maximum throughput limits set forth under Section 6.1.1 and 6.1.~~7-8~~, the permittee shall monitor the total fuel consumed by the kilns K-35 and K-36, fuel consumed by the afterburner systems, hours the kiln operated above 1480⁰C, and the total amount of refractory produced by each kiln. The production records for Kiln K-35 shall identify and note the amount of refractory produced that contains liquid polyethylene glycol based binder. Such records shall be maintained on a monthly basis and compliance with the annual limits shall be demonstrated on a 12-month rolling total. Such records shall be maintained in accordance with Condition 3.4.2 of this permit.
[45CSR13 - R13-2433, Condition 4.2.1]
- 6.2.2. For the purpose of determining compliance with the opacity limits of condition 6.1.~~56~~, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping of emission points: 049, 050, and 051.

The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40 CFR Part 60, Appendix A, Method 9 certification course.

Visible emission checks shall be conducted at least once per calendar month ~~between April 1 to October 31~~ with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed at each source (stack, transfer point, fugitive emission source, etc.) for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13 - R13-2433, Condition 4.2.2, and 45CSR§30-5.1.c, Emission Points (049, 050, 051)]

- 6.2.3. The afterburners and kilns shall be equipped with a temperature measuring device/system that measures the temperature in the combustion chamber of each kiln and afterburner. This device shall have an accuracy of $\pm 1.5^{\circ}\text{C}$ or ± 1 percent of the temperature value expressed in degrees Celsius, whichever is larger. The location of the temperature sensor(s) must be in a location that provides a representative temperature of each kiln or afterburner combustion chamber. In addition to measuring, such device or system shall record the measured temperature in intervals of no greater than once every 15 minutes. Such system shall be maintained at all times while the kiln is in operation.

[45CSR13 - R13-2433, Condition 4.1.1.g f and 4.1.2.f, 45CSR§30-5.1.c, Equipment ID (K-49, K-50)]

6.3. Testing Requirements

- 6.3.1. Testing once per permit term or at the request of the Director shall be performed to demonstrate compliance with the CO, NO_x, and VOC emission limits in 6.1.2 and 6.1.89.

[45CSR§30-5.1.c., Equipment IDs (K-35, K-36)]

- 6.3.2. A calculation utilizing production records and the results of emission testing shall be used for demonstrating compliance with the yearly emission limits in 6.1.3 and 6.1.940.

[45CSR§30-5.1.c, Equipment IDs (K-35, K-36)]

6.4. Recordkeeping Requirements

- 6.4.1. Compliance with the SO₂ and weight-based PM emission limitations established for the K-35 Kiln (049) and K-36 Kiln (050) shall be demonstrated by the following:

- a. Demonstrate that natural gas was used as the only fuel in the K-35 Kiln (049), K-36 Kiln (050), and K-38 Kiln (051).
- b. Maintain records of the quantity of fuel burned in such units on a monthly basis.
- c. The owner or operator of a unit(s) which burns pipeline quality natural gas shall maintain records on the quality of fuel burned in such unit(s). Such requirement will be deemed to be satisfied by an initial characterization of the fuel quality, which shall include the ash, sulfur, moisture, volatile matter and BTU content. Such data may be obtained from the supplier(s), ASTM testing or other method approved by the Director.

[45CSR§30-5.1.c]

- 6.4.2. *Record of Maintenance of Air Pollution Control Equipment.* For pollution control equipment 049C and 050C, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13 - R13-2433, Condition 4.4.2]

- 6.4.3. *Record of Malfunctions of Air Pollution Control Equipment.* For air pollution control equipment 049C and 050C, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the

following information shall be recorded:

- The equipment involved.
- Steps taken to minimize emissions during the event.
- The duration of the event.
- The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- The cause the malfunction.
- Steps taken to corrected the malfunction.
- Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13 - R13-2433, Condition 4.4.3]

- 6.4.4. The permittee shall maintain records of all monitoring data required by Section 6.2.2. documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6 - 10 mph NE wind) during the visual emission check(s). An example form is supplied as Appendix A of this permit. Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirements. For an emission unit out of service during the normal monthly evaluation, the record of observation may note "out of service" (O/S) or equivalent.

[45CSR13 - R13-2433, Condition 4.4.4]

6.5. Reporting Requirements

- 6.5.1. The results of emission testing in 6.3.1 shall be submitted to the Director within thirty (30) days of completion.
- [45CSR§30-5.1.c.]**
- 6.5.2. Any exceedances of the allowable visible emission requirement for any emission source discovered during observations using the method outlined in 45CSR7A must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

[45CSR13 - R13-2433, Condition 4.5.1]

7.0 Source-Specific Requirements for Kilns K-1, K-2, K-4, K-9, K-10, K-11, K-12, K-13, K-14, K-15, K-21, K-22, K-23, K-24, and K-28 (Emission Points 007, 008, 009, 010, 011, 015, 016, 018, 019, 020, 021, 031, 032, 034, and 035)

7.1. Limitations and Standards

7.1.1. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.

[45CSR§7-3.1]

7.1.2. No person shall cause, suffer, allow, or permit emissions of smoke and/or particulate matter into the open air from any storage structure associated with any manufacturing process.

[45CSR§7-3.7]

7.1.3. No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantities specified in this permit.

Emission ID#	Description	Maximum Allowable PM Emission Limit (lb/hr)
007	Kiln K-4	0.0783
008	Kiln K-9	0.39
009	Kiln K-10	0.39
010	Kiln K-11	0.39
011	Kiln K-15	0.39
015	Kiln K-1	0.275
016	Kiln K-2	0.275
018	Kiln K-13	0.275
019	Kiln K-14	0.275
020	Kiln K-21	0.275
021	Kiln K-22	0.104
031	Kiln K-23	0.245
032	Kiln K-24	0.245
034	Kiln K-12	0.0783
035	Kiln K-28	0.019

For Kilns K-1 and K-2 compliance with these PM limits will assure compliance with the weight based emission limits of Rule 6 at 45CSR§6-4.1.

[45CSR§7-4.1, and 45CSR§6-4.1]

- 7.1.4. Due to unavoidable malfunction of equipment, emissions exceeding those provided for in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.
~~[45CSR§7-9.140.]~~

7.2. Monitoring Requirements

- 7.2.1. Visual emission checks of each emission point specified shall be conducted monthly by plant personnel. If visible emissions are observed at any point at any time, compliance shall be determined by a certified observer using 45CSR7A. Records shall be maintained on site stating the date and time of each visible emission check and whether visible emission were observed. Visible emission checks shall not be required during start-ups, shut-downs, and malfunctions.
[45CSR§30-5.1.c]

7.3. Testing Requirements

- 7.3.1. The equipment covered by this section continues to be subject to the general testing requirement specified by facility wide condition 3.3.1.
[45CSR§30-5.1.c]

7.4. Recordkeeping Requirements

- 7.4.1. The permittee shall keep accurate records of the monthly visual emission observations in accordance with condition 3.4.1, within the facility wide requirements of this permit.
[45CSR§30-5.1.c]

8.0 Source-Specific Requirements for Zircon Dryers #3, and #4, Chrome Dryers #2 and #3, and Brick Dryers #6 and #8

8.1. Limitations and Standards

- 8.1.1. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.

[45CSR§7-3.1]

- 8.1.2. No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantities specified in this permit.

Emission ID#	Description	Maximum Allowable PM Emission Limit (lb/hr)
003	Zircon Dryer #3	0.327
004	Zircon Dryer #4	0.327
013	Chrome Dryer #2	0.225
014	Chrome Dryer #3	0.225
029	Brick Dryer #6	6.2
030	Brick Dryer #8	6.2

[45CSR§7-4.1.]

8.2. Monitoring Requirements

- 8.2.1. Visual emission checks of each emission point specified shall be conducted monthly by plant personnel. If visible emissions are observed at any point at any time, compliance shall be determined by a certified observer using 45CSR7A. Records shall be maintained on site stating the date and time of each visible emission check and whether visible emission were observed. Visible emission checks shall not be required during start-ups, shut-downs, and malfunctions.

[45CSR§30-5.1.c.]

8.3. Testing Requirements

- 8.3.1. The dryers covered by this section continue to be subject to the general testing requirement specified by facility wide condition 3.3.1.

[45CSR§30-5.1.c]

8.4. Recordkeeping Requirements

- 8.4.1. The permittee shall keep accurate records of the monthly visual emission observations in accordance with condition 3.4.1, within the facility wide requirements of this permit.

[45CSR§30-5.1.c]

9.0. Source-Specific Requirements for Zircon Spray Dryer, Emission Point ID (001)

9.1. Limitations and Standards

- 9.1.1. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.

[45CSR§7-3.1]

- 9.1.2. No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantities specified in this permit.

Emission ID#	Description	Maximum Allowable PM Emission Limit (lb/hr)
001	Zircon Spray Dryer	0.327

[45CSR§7-4.1]

9.2. Monitoring Requirements

- 9.2.1. Visual emission checks of each emission point specified shall be conducted monthly by plant personnel. If visible emissions are observed at any point at any time, compliance shall be determined by a certified observer using 45CSR7A. Records shall be maintained on site stating the date and time of each visible emission check and whether visible emission were observed. Visible emission checks shall not be required during start-ups, shut-downs, and malfunctions.

[45CSR§30-5.1.c, Emission Point ID (001)]

- 9.2.2. Each control system shall be inspected weekly to verify that the baghouses are operating at all times when the spray dryer is operating.

[45CSR§30-5.1.c, Emission Unit ID (1S)]

9.3. Testing Requirements

- 9.3.1. The dryer covered by this section continues to be subject to the general testing requirement specified by facility wide condition 3.3.1.

[45CSR§30-5.1.c]

9.4. Recordkeeping Requirements

- 9.4.1. The permittee shall keep accurate records of the baghouse inspections as well as records of the monthly visual emission observations in accordance with condition 3.4.1, within the facility wide requirements of this permit.

[45CSR§30-5.1.c]

APPENDIX A
Visual Opacity Log

Date of Observation:

Date Entered by:

Reviewed by:

Date Reviewed:

General Weather Conditions:

Emission Point ID	Description of Emission Point	Time of Observation	Visible Emissions (Yes/No)	Consecutive Months of Visible Emission	Comments